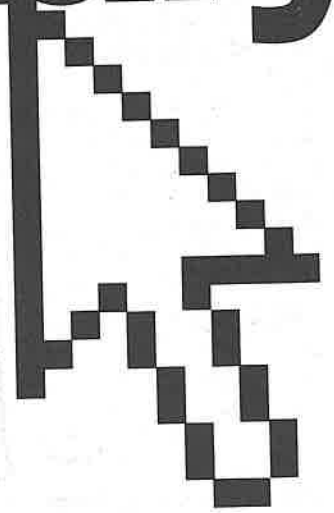
EXHIBIT 2

Microsoft® Press

Microsoft® Computer Dictionary

Fourth Edition



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A

Apple Events *n.* A feature added to Mac OS System 7 that enables one application to send a command, such as save or open, to another application. *See also* Mac OS.

Apple Extended Keyboard *n.* A 105-key keyboard that works with the Macintosh SE, Macintosh II, and Apple IIGS computers. This keyboard marks Apple's first inclusion of function (F) keys, whose absence was long cited as a shortcoming of the Macintosh compared with IBM PCs and compatibles. This feature, along with other layout changes and the addition of new keys and lights, makes the Apple Extended Keyboard quite similar in form to the IBM enhanced keyboard. See the illustration. *See also* enhanced keyboard.

Apple II *n.* The second computer introduced by the Apple Computer Corporation, in April 1977. The Apple II featured 4K dynamic RAM, expandable to 48K (with 16K chips), and used the 6502 microprocessor. The Apple II was the first computer to offer a TV video adapter as an optional alternative to a color computer monitor. It also featured sound and eight expansion slots. *See also* 6502.

Apple key *n.* A key on Apple keyboards labeled with an outline of the Apple logo. On the Apple Extended Keyboard, this key is the same as the Command key, which functions similarly to the Control key on IBM and compatible keyboards. It is generally used in conjunction with a character key as a shortcut to making menu selections or starting a macro.

Apple Macintosh *n. See* Macintosh.

Apple Newton *n. See* Newton.

AppleScript *n.* A script language developed by Apple Computer, Inc., for Macintosh computers running under the Mac OS to execute commands and automate functions. *See also* script.

AppleShare *n.* A file server software developed by Apple Computer, Inc., that works with the Mac OS and allows one Macintosh computer to share files with another on the same network. *See also* file server, Mac OS.

applet \a´plət\ *n.* A program that can be downloaded over the Internet and executed on the recipient's machine. Applets are often written in the Java programming language and run within browser software, and they are typically used to customize or add interactive elements to a Web page.

AppleTalk *n.* An inexpensive local area network developed by Apple Computer, Inc., for Macintosh computers that can be used by Apple and non-Apple computers to communicate and share resources such as printers and file servers. Non-Apple computers must be equipped with AppleTalk hardware and suitable software. The network uses a layered set of protocols similar to the ISO/OSI reference model and transfers information in the form of packets called frames. AppleTalk supports connections to other AppleTalk networks through devices known as bridges, and it supports connections to dissimilar networks through devices called gateways. *See also* bridge, frame (definition 2), gateway.

application *n.* A program designed to assist in the performance of a specific task, such as word processing, accounting, or inventory management. *Compare* utility.

Apple Extended Keyboard.

application binary interface *n.* A set of instructions that specifies how an executable file interacts with the hardware and how information is stored. *Acronym:* ABI. *Compare* application programming interface.

application-centric *adj.* Of, pertaining to, or characteristic of an operating system in which a user invokes an application to open or create documents (such as word processing files or spreadsheets). Command-line interfaces and some graphical user interfaces such as the Windows 3.*x* Program Manager are application-centric. *Compare* document-centric.

application developer *n.* An individual who designs and analyzes the appearance and operation of an application program.

application development environment *n.* An integrated suite of programs for use by software developers. Typical components of application development environments include a compiler, file browsing system, debugger, and text editor for use in creating programs.

application development language *n.* A computer language designed for creating applications. The term is usually restricted to refer to languages with specific high-level constructs geared toward record design, form layout, database retrieval and update, and similar tasks. *See also* 4GL, application, application generator.

application development system *n.* A programming environment designed for the development of an application, typically including a text editor, compiler, and linker, and often including a library of common software routines for use in the developed program.

application entity *n. See* AE.

application file *n. See* program file.

Application Foundation Classes *n.* A set of Java class libraries developed by Microsoft that provides developers with user-interface controls and graphics tools for creating and manipulating elements such as text and fonts. The Application Foundation Classes extend the capabilities of Java's Abstract Windowing Toolkit (AWT) and are used to facilitate and expedite the creation of Java applets and applications through the use of prebuilt, customizable development components. *Acronym:* AFC. *See also* Internet Foundation Classes, Java, Java Foundation Classes, Microsoft Foundation Classes.

application gateway *n.* Software running on a machine that is intended to maintain security on a secluded network yet allow certain traffic to go between the private network and the outside world. *See also* firewall.

application generator *n.* Software for generating source or machine code for running an application based on a description of the desired functionality. Limited in scope, application generators are included with some database programs and use built-in instruction sets to generate program code. *See also* application.

application heap *n.* A block of RAM used by an application to store its code, resources, records, document data, and other information. *See also* heap (definition 1), RAM.

application layer *n.* The highest layer of standards in the Open Systems Interconnection (OSI) reference model. The application layer contains signals that perform useful work for the user, such as file transfer or remote access to a computer, as opposed to lower levels, which control the exchange of data between transmitter and receiver. See the illustration. *See also* ISO/OSI reference model.

ISO/OSI MODEL

ISO/OSI Layer	*Focus*
Application *(highest level)*	Program-to-program transfer of information
Presentation	Text formatting and display, code conversion
Session	Establishing, maintaining, and coordinating communication
Transport	Accurate delivery, service quality
Network	Transport routes, message handling and transfer
Data-link	Coding, addressing, and transmitting information
Physical	Hardware connections

Application layer. The highest layer in the ISO/OSI reference model.

application processor *n.* A processor dedicated to a single application.

application program *n. See* application.

multiple-document interface n. *See* MDI.

multiple inheritance *n.* A feature of some object-oriented programming languages that allows a new class to be derived from several existing classes. Multiple inheritance both extends and combines existing types. *Acronym:* MI. *See also* class, inherit, type.

multiple instruction, multiple data streams *n. See* MIMD.

multiple-pass printing *n.* A form of dot-matrix printing in which the print head makes more than one pass across the page for each printed line, printing each line a second time exactly on top of the first pass. Multiple-pass printing can be used with dot-matrix printers to darken the print and smooth out errors in alignment. On better printers, a second pass might occur after the paper is moved up slightly, so that the dots in the characters overlap to create a crisper, darker image.

multiple recipients *n.* **1.** The capability of sending e-mail to more than one user at a time by listing more than one e-mail address on a line. Delimiters such as commas or semicolons are used to separate the e-mail addresses. *See also* e-mail[1] (definition 1), mailing list. **2.** The subscribers on a mailing list. A message sent to the list is addressed to the "multiple recipients of" the list.

multiple regression *n.* A statistical technique that seeks to describe the behavior of a so-called "dependent" variable in terms of the observed behavior of numerous other, "independent" variables thought to affect it. For each independent variable, a regression analysis can determine the correlation coefficient of the independent variable—that is, the degree to which variations in the independent variable cause changes in the dependent variable. *See also* dependent variable.

multiple-user system *n. See* multiuser system.

multiplexer *n.* A device for funneling several different streams of data over a common communications line. Multiplexers are used either to attach many communications lines to a smaller number of communications ports or to attach a large number of communications ports to a smaller number of communications lines. *Acronym:* MUX.

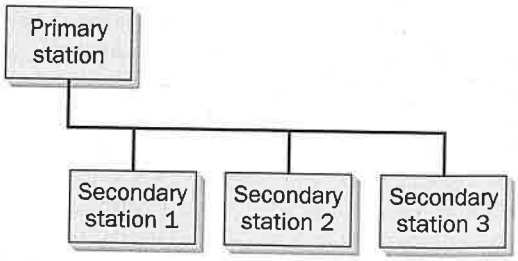
multiplexer channel *n.* One of the inputs to a multiplexer. *See also* multiplexer (definition 1).

multiplexing *n.* A technique used in communications and input/output operations for transmitting a number of separate signals simultaneously over a single channel or line. To maintain the integrity of each signal on the channel, multiplexing can separate the signals by time, space, or frequency. The device used to combine the signals is a *multiplexer. See also* FDM, space-division multiplexing, time-division multiplexing.

multiplicand *n.* In arithmetic, the number that is multiplied by another number (the multiplier). In mathematics, the multiplicand and the multiplier are interchangeable, depending on how the problem is stated, because the result is the same if the two are reversed—for example, 2×3 and 3×2. In arithmetic performed by computers, however, the multiplicand is different from the multiplier because computer multiplication is usually performed as addition. Therefore, 2×3 means "add 2 three times," whereas 3×2 means "add 3 two times." *See also* factor. *Compare* multiplier (definition 1).

multiplier *n.* **1.** In arithmetic, the number that indicates how many times another number (the multiplicand) is multiplied. *See also* factor. *Compare* multiplicand. **2.** In computing, an electronic device independent of the central processing unit (CPU) that performs multiplication by adding the multiplicand according to the value of the digits in the multiplier.

multipoint configuration *n.* A communications link in which multiple stations are connected sequentially to the same communications line. Typically, the communications line is controlled by a primary station, such as a computer, and the stations attached to the line are secondary. See the illustration.



Multipoint configuration.

multiport repeater *n. See* active hub.

multiprocessing *n.* A mode of operation in which two or more connected and roughly equal processing units each carry out one or more processes (programs or sets of instructions) in tandem. In multiprocessing, each processing unit works on a different set of in-

P

p *prefix See* pico-

P *prefix See* peta-.

P5 *n.* Intel's internal working name for the Pentium microprocessor. Although it was not intended to be used publicly, the name P5 leaked out to the computer-industry trade press and was commonly used to reference the microprocessor before it was released. *See also* 586, Pentium.

pack *vb.* To store information in a more compact form. Packing eliminates unnecessary spaces and other such characters and may use other special methods of compressing data as well. It is used by some programs to minimize storage requirements.

package *n.* **1.** A computer application consisting of one or more programs created to perform a particular type of work—for example, an accounting package or a spreadsheet package. **2.** In electronics, the housing in which an electronic component is packaged. *See also* DIP.

packaged software *n.* A software program sold through a retail distributor, as opposed to custom software. *See also* canned software.

packed decimal *adj.* A method of encoding decimal numbers in binary form that maximizes storage space by using each byte to represent two decimal digits. When signed decimal numbers are stored in packed decimal format, the sign appears in the rightmost four bits of the rightmost (least significant) byte.

packet *n.* **1.** A unit of information transmitted as a whole from one device to another on a network. **2.** In packet-switching networks, a transmission unit of fixed maximum size that consists of binary digits representing both data and a header containing an identification number, source and destination addresses, and sometimes error-control data. *See also* packet switching.

packet assembler and disassembler *n. See* packet assembler/disassembler.

packet assembler/disassembler *n.* An interface between non-packet-switching equipment and a packet-switching network. *Acronym:* PAD.

packet filtering *n.* The process of controlling network access based on IP addresses. Firewalls will often incorporate filters that allow or deny users the ability to enter or leave a local area network. Packet filtering is also used to accept or reject packets such as e-mail, based on the origin of the packet to ensure security on a private network. *See also* firewall, IP address, packet (definition 1).

packet header *n.* The portion of a data packet that precedes the body (data). The header contains data, such as source and destination addresses and control and timing information, that is needed for successful transmission.

Packet Internet Groper *n. See* ping[1] (definition 1).

packet sniffer *n.* A hardware and/or software device that examines every packet sent across a network. To work, a packet sniffer must be installed in the same network block as the network it is intended to sniff. Designed as a problem-solving tool to isolate problems degrading network performance, packet sniffers have become security risks on some networks because crackers can use them to capture nonencrypted user IDs, passwords, credit card numbers, e-mail addresses, and other confidential information. *See also* packet, cracker. *Compare* monitoring software.

packet switching *n.* A message-delivery technique in which small units of information (packets) are relayed through stations in a computer network along the best route available between the source and the destination. A packet-switching network handles information in small units, breaking long messages into multiple packets before routing. Although each packet may travel along a different path, and the packets composing a message may arrive at different times or out of sequence, the receiving computer reassembles the original message correctly. Packet-switching networks are considered to be fast and efficient. To manage the tasks of routing traffic and assembling/disassembling packets, such a network requires some "intelligence" from the computers and software that control delivery. The Internet is an example of a packet-switching network. Standards for

packet switching on networks are documented in the ITU recommendation X.25. *Compare* circuit switching.

Packet Switching Exchange *n.* An intermediary switching station in a packet-switching network.

packet trailer *n.* The portion of a data packet that follows the body (data). The trailer typically contains information related to error checking and correction. *See also* packet.

packing density *n.* The number of storage units per length or area of a storage device. Bits per inch is one measure of packing density.

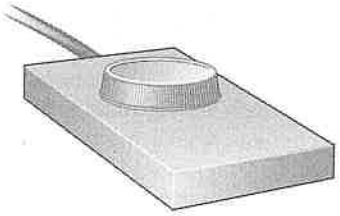
PackIT *n.* A file format used on the Macintosh to represent collections of Mac files, possibly Huffman compressed. *See also* Huffman coding, Macintosh.

PAD *n.* *See* packet assembler/disassembler.

pad character *n.* In data input and storage, an extra character inserted as filler to use up surplus space in a predefined block of a specified length, such as a fixed-length field.

padding *n.* In data storage, the addition of one or more bits, usually zeros, to a block of data in order to fill it, to force the actual data bits into a certain position, or to prevent the data from duplicating a bit pattern that has an established meaning, such as an embedded command.

paddle *n.* An early type of input device often used with computer games especially for side-to-side or up-and-down movements of an on-screen object. A paddle is less sophisticated than a joystick because it only permits the user, by turning a dial, to specify movement along a single axis. The paddle got its name because its most popular use was to control the on-screen paddles in the simple early video games, such as Pong. See the illustration.



Paddle.

paddle switch *n.* Any switch that has a wide handle. The large on/off switch on many IBM personal computers is one type of paddle switch.

page *n.* **1.** In word processing, the text and display elements to be printed on one side of a sheet of paper, subject to formatting specifications such as depth, margin size, and number of columns. **2.** A fixed-size block of memory. When used in the context of a paging memory system, a page is a block of memory whose physical address can be changed via mapping hardware. *See also* EMS, memory management unit, virtual memory. **3.** In computer graphics, a portion of display memory that contains one complete full-screen image; the internal representation of a screenful of information. **4.** *See* Web page.

page break *n.* The point at which the flow of text in a document moves to the top of a new page. Most word processors automatically place page breaks when the material on the page reaches a specified maximum. By contrast, a "hard" or "manual" page break is a command or code inserted by the user to force a page break at a specific place in the text. *See also* form feed.

paged address *n.* In the 80386, i486, and Pentium paged-memory architecture, an address in memory created by combining the processes of segment translation and page translation. In the paged-memory scheme, which requires that the microprocessor's paging feature be enabled, logical addresses are transformed into physical addresses in two steps: segment translation and page translation. The first step, segment translation, converts a logical to a linear address—an address that refers indirectly to a physical address. After the linear address is obtained, the microprocessor's paging hardware converts the linear address to a physical address by specifying a page table (an array of 32-bit page specifiers), a page (a 4-KB unit of contiguous addresses within physical memory) within that table, and an offset within that page. This information collectively refers to a physical address.

page-description language *n.* A programming language, such as PostScript, that is used to describe output to a printer or a display device, which then uses the instructions from the page-description language to construct text and graphics to create the required page image. Page-description languages are like other computer languages, with logical program

stepper motor *n.* A mechanical device that rotates only a fixed distance each time it receives an electrical pulse. A stepper motor is part of a disk drive.

step-rate time *n.* The time required to move a disk actuator arm from one track to the next. *See also* actuator, stepper motor.

stereogram *n.* *See* autostereogram.

StickyKeys *n.* An accessibility feature built into Macintosh computers and Windows 9x and Windows NT 4 that causes modifier keys such as Shift, Control, or Alt to "stay on" after they are pressed, eliminating the need to press multiple keys simultaneously. This feature facilitates the use of modifier keys by users who are unable to hold down one key while pressing another.

stochastic *adj.* Based on random occurrences. For example, a stochastic model describes a system by taking into account chance events as well as planned events.

stop bit *n.* In asynchronous transmission, a bit that signals the end of a character. In early electromechanical teleprinters, the stop bit provided time for the receiving mechanism to coast back to the idle position and, depending on the mechanism, had a duration of 1, 1.5, or 2 data bits. *See also* asynchronous transmission. *Compare* parity bit, start bit.

storage *n.* In computing, any device in or on which information can be kept. Microcomputers have two main types of storage: random access memory (RAM) and disk drives and other external storage media. Other types of storage include read-only memory (ROM) and buffers.

Storage Area Network *n.* *See* System Area Network.

storage device *n.* An apparatus for recording computer data in permanent or semipermanent form. When a distinction is made between primary (main) storage devices and secondary (auxiliary) storage devices, the former refers to random access memory (RAM) and the latter refers to disk drives and other external devices.

storage location *n.* The position at which a particular item can be found—either an addressed location or a uniquely identified location on a disk, tape, or similar medium.

storage media *n.* The various types of physical material on which data bits are written and stored, such as floppy disks, hard disks, tape, and optical discs.

storage tube *n.* *See* direct view storage tube.

store-and-forward *n.* A method of delivering transmissions in which messages are held temporarily by an intermediary before being sent on to their destination. Store and forward is used by some switches in delivering packets to their destinations. *Compare* cut-through switch.

stored program concept *n.* A system architecture scheme, credited largely to the mathematician John von Neumann, in which both programs and data are in direct-access storage (random access memory, or RAM), thereby allowing code and data to be treated interchangeably. *See also* von Neumann architecture.

storefront *n.* *See* virtual storefront.

storm *n.* On a network, a sudden, excessive burst of traffic. Storms are often responsible for network outages.

STP *n.* Acronym for shielded twisted pair. A cable consisting of one or more twisted pairs of wires and a sheath of foil and copper braid. The twists protect the pairs from interference by each other, and the shielding protects the pairs from interference from outside. Therefore, STP cable can be used for high-speed transmission over long distances. *See also* twisted-pair cable. *Compare* UTP.

straight-line code *n.* Program code that follows a direct sequence of statements rather than skipping ahead or jumping back via transfer statements such as GOTO and JUMP. *See also* GOTO statement, jump instruction. *Compare* spaghetti code.

stream[1] *n.* Any data transmission, such as the movement of a file between disk and memory, that occurs in a continuous flow. Manipulating a data stream is a programming task. Consumers, however, are likely to encounter references to streams and streaming in connection to the Internet, which has increased reliance on stream techniques to enable users (even those with slower equipment) to access large multimedia files—especially those containing audio and video components—and to display or play them before all the data has been transferred.

stream[2] *vb.* To transfer data continuously, beginning to end, in a steady flow. Many aspects of computing rely on the ability to stream data: file input and output, for example, and communications. If necessary, an application receiving a stream must be able to save the information to a buffer in order to prevent loss of data. On the Internet, streaming enables users

to begin accessing and using a file before it has been transmitted in its entirety.

stream cipher *n.* A method for encrypting a data sequence of unlimited length using a key of fixed length. *See also* key (definition 3). *Compare* block cipher.

streaming *n.* **1.** On the Internet, the process of delivering information, especially multimedia sound or video, in a steady flow that the recipient can access as the file is being transmitted. **2.** In magnetic tape storage devices, a low-cost technique to control the motion of the tape by removing tape buffers. Although streaming tape compromises start/stop performance, it achieves highly reliable storage and retrieval of data, and is useful when a steady supply of data is required by a particular application or computer.

streaming tape *n. See* tape (definition 1).

stream-oriented file *n.* A file used to store a fairly continuous series of bits, bytes, or other small, structurally uniform units.

street price *n.* The actual retail or mail-order price of a consumer hardware or software product. In most cases, the street price is somewhat lower than the "suggested retail price."

stress test *n.* A test of a software or hardware system's functional limits, performed by subjecting the system to extreme conditions, such as peak volumes of data or extremes in temperature.

strikethrough *n.* One or more lines drawn through a selected range of text, usually to show deletion or the intent to delete. See the illustration.

~~strikethrough~~

Strikethrough.

string *n.* A data structure composed of a sequence of characters usually representing human-readable text.

string variable *n.* An arbitrary name assigned by the programmer to a string of alphanumeric characters and used to reference that entire string. *See also* string.

stripe *vb. See* disk striping.

stripe pitch *n.* The distance, measured horizontally, between bands of phosphor that are the same color on a cathode ray tube (CRT) display based on aperture grill technology. Although the measurements are based on different methods of applying phosphor to the screen surface, stripe pitch is comparable to dot pitch, the measurement used with CRTs based on shadow mask technology. *See also* aperture grill, CRT, mask (definition 2). *Compare* dot pitch, slot pitch.

striping *n.* A means of protecting data on a network by spreading it across multiple disks. In the most commonly used approach, striping is combined with parity (error-correcting information) to ensure that if some portion of the data is lost, it can be reconstructed. Striping is implemented in RAID security. *See also* RAID. *Compare* disk mirroring.

strobe *n.* A timing signal that initiates and coordinates the passage of data, typically through an input/output (I/O) device interface, such as a keyboard or printer.

stroke *n.* **1.** In data entry, a keystroke—a signal to the computer that a key has been pressed. **2.** In typography, a line representing part of a letter. **3.** In paint programs, a "swipe" of the brush made with the mouse or keyboard in creating a graphic. **4.** In display technology, a line created as a vector (a path between two coordinates) on a vector graphics display (as opposed to a line of pixels drawn dot by dot on a raster graphics display).

stroke font *n.* A font printed by drawing a combination of lines rather than by filling a shape, as with an outline font. *Compare* outline font.

stroke weight *n.* The width, or thickness, of the lines (strokes) that make up a character. *See also* font.

stroke writer *n.* In video, a display unit that draws characters and graphic images as sets of strokes—lines or curves connecting points—rather than as sets of dots, as on a typical raster-scan monitor. *See also* vector graphics.

strong typing *n.* A characteristic of a programming language that does not allow the program to change the data type of a variable during program execution. *See also* data type, variable. *Compare* weak typing.

structure *n.* **1.** The design and composition of a program, including program flow, hierarchy, and modularity. **2.** A collection of data elements. *See also* data structure.

structured graphics *n. See* object-oriented graphics.

structured programming *n.* Programming that produces programs with clean flow, clear design, and a degree of modularity or hierarchical structure. *See also* modular programming, object-oriented programming. *Compare* spaghetti code.